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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WEST, JEFFREY R

ART UNIT

PAPER NUMBER

2857

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,597

Applicant(s)

LARKY ET AL.

Examiner

Jeffrey R. West

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/04/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement because they now require the device to assert a second done signal through a discrete output in response to "successfully receiving said test vector from said host emulator".

Page 9 of the specification indicates that "The golden part 102 may then test the packet may compare the packet to ensure an accurate transmission operation of the DUT 104. The reception and transmission of the test packet may be implemented to verify the DUT 104. Results of the comparison are generally available on an external pin (e.g., DONE) of the golden part 102 and/or the DUT 104 such that a pass/fail determination can be made".

Page 13 of the specification also indicates that "The DONE indication may indicate if a test packet has been correctly received by the tester device".

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Therefore, since in the above cited sections, the specification indicates that a DONE signal is generated in response to successfully receiving a test packet from a host emulator, not a test vector, and since the specification also presents the test packets and test vectors as separate and distinct (see page 16, lines 2-16 and page 17, line 17 to page 18, line 4), one having ordinary skill in the art would not understand that Applicant had possession of the invention as claimed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12, 14-21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Catalyst Enterprises, Inc., "SBAE-10" Bus Analyzer-Exerciser User's Manual and Analyzer/Exerciser/Tester specification sheet (henceforth "Catalyst") in view of U.S. Patent No. 5,177,630 to Goutzoulis et al. and U.S. Patent No. 5,959,911 to Krause et al.

With respect to claims 1, 15, and 16 Catalyst discloses an apparatus comprising a low speed tester (i.e. windows based system) and a host emulator (i.e. SBAE-10) having a first bi-directional interface (i.e. parallel port) coupled to said low speed tester to receive test data at a first speed (User's

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Manual, page 6, Figure 3), (ii) a second interface (i.e. primary USB connector) configured to (a) transmit said test packet to a device and (b) receive a response packet from said device (User's Manual, page 32-33) and (iii) transferring on the bi-directional interface to said low speed tester for display a first done signal (i.e. error signal and result signals) based upon said response (User's Manual, page 14, page 49, lines 1-2 and page 51, lines 1-4).

With respect to claim 2, Catalyst discloses that said host emulator is further configured to perform a verification of said device (Specification Sheet, page 1, column 1, User's Manual, page 2, "Basic Analyzer", and User's Manual, page 33, verify that target received data without error).

With respect to claims 3 and 17, Catalyst discloses that said device comprises a Universal Serial Bus (USB) device (User's Manual, page 6, Figure 3).

With respect to claims 5 and 18, Catalyst discloses that said low speed tester is configured to control said host emulator through a GUI (User's Manual, page 23, Figures 19-20 and page 32).

With respect to claims 8-10, Catalyst also teaches a tester function to control the apparatus/host emulator to initiate test packets for a transmission/reception loop as well as verifying the packets or forcing packet errors to the USB device for correct operation verification (User's Manual, page 14, Time Out detection, page 33, acknowledge that device received data without error, and pages 39-40).

With respect to claims 11, 12, and 25, Catalyst discloses that under control of the host emulator that transmits a first packet, said device initiates the transmission of a response packet that is then received and verified by the host emulator to determine if a time constraint has been met (User's Manual, page 14 and pages 32-33).

With respect to claims 14 and 20, Catalyst discloses that said apparatus is configured to perform at least one test of a plurality of test modes (User's Manual, pages 17-18) wherein said plurality of test modes comprise USB 2.0 defined test modes (Specification Sheet, page 1, lines 1-2) in production environments (i.e. devices undergoing a debugging stage) (User's Manual, page 2, lines 1-4).

With respect to claims 21 and 23, Catalyst discloses that said host emulator is configured to generate said first done signal (i.e. error signal) to indicate no successful reception of said test packet within said predetermined time (i.e. Time Out) (User's Manual, page 14).

Further, while the invention of Catalyst teaches performing full and low-speed testing of the device under test by receiving first signals from the low-speed tester over a parallel connection to the host emulator which performs the low and full-speed testing of the device under test over a USB connection (Catalyst, User's Manual, page 6), Catalyst does not explicitly state that the emulator transmits test data at a second speed faster than the first speed received from the low-speed tester. However, due to the well-known maximum data transfer rates of parallel ports, USB ports and the

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requirements of low and full-speed testing, it is considered inherent that the speed of the test data transmitted by the host emulator to perform the low and full-speed testing must be faster than the test data sent from the low speed tester because a parallel port cannot transmit data at a speed fast enough to perform the low and full-speed testing.

As noted above, the invention of Catalyst teaches all the features of the claimed invention except for including a test vector generator for generating test vectors for controlling the testing speed of the apparatus and including two separate interfaces between the low speed tester and the host emulator.

Goutzoulis et al. teaches a method and apparatus for generating and transferring high speed data for high speed testing applications by generating and transferring low-speed input vectors (i.e. vectors at a first speed) from an external test vector generator to the test device which configures the device by triggering specific components to adjust the delay (column 1, lines 34-40 and column 2, line 60 to column 3, line 7) and generate high-speed test vectors (i.e. vectors at a second speed faster than said first speed) for transferring the high-speed test vectors to a digital DUT (column 2, lines 50-54).

Krause teaches an apparatus and method for implementing a bank interlock scheme and related test mode for multi-bank memory devices including data lines for transmitting read and write data (column 2, lines 49-59), wherein the read and write lines can either be implemented as separate

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lines with separate interfaces or a bi-directional line with one interface (column 3, lines 13-15).

It would have been obvious to one having ordinary skill in the art to modify the invention of Catalyst to include a test vector generator for generating test vectors because while Catalyst describes a system wherein the speed of the device under test is automatically determined, Catalyst does not provide the corresponding method for performing this adjusted high-speed testing. Therefore, the combination of Catalyst and Goutzoulis, as suggested by Goutzoulis, would have provided method for producing the high speed vectors required by Catalyst in a method that applies for very high speed devices, provides necessary tester interconnections, and allows precise control of required DUT input time delays (column 2, lines 25-30 and column 3, lines 8-13).

Further, it would have been obvious to one having ordinary skill in the art to modify the invention of Catalyst to include two separate interfaces between the low speed tester and the host emulator, as taught by Krause, because Krause suggests that separate interfaces are well-known equivalences to bi-directional interfaces (column 3, lines 13-15) and therefore one having ordinary skill in the art would recognize the motivation to use whichever type of device is most readily available. Further, the combination would have reduced a possibility of data collision between the low-speed tester and the host emulator both sending data to each other at the same time, by providing distinct interfaces for handing each type of data transmission.

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Further still, it would have been obvious to one having ordinary skill in the art at the time the invention was made to separate the single bi-directional interface into two separate interfaces since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179 and therefore, one having ordinary skill in the art would have been motivated to reduce the required complexity of the system by separating a bi-directional interface, that would have to be able to handle and route both data received from the low-speed tester as well as data from the emulator for transmission to the low-speed tester, into two separate distinct interfaces.

5. Claims 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Catalyst in view of Goutzoulis et al. and Krause et al. and further in view of U.S. Patent No. 6,304,982 to Mongan et al.

As noted above, Catalyst in combination with Goutzoulis and Krause teaches many of the features of the claimed invention and while the invention of Catalyst, Goutzoulis, and Krause does teach that the host emulator obtains a response from the device and determines a plurality of errors according to error codes which are sent to the low speed tester for display (Catalyst, User's Manual, page 14), the combination does not specifically indicate that the low speed tester is further configured to make a decision for a pass/fail condition of said device based on said response and generate a pass/fail signal indicating said decision.

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Mongan teaches a network distributed automated testing system including a test computer that receives error message responses resulting from a test (column 2, lines 19-21) and makes a decision for a pass/fail condition of the test based on said response to generate a pass/fail signal indicating the decision to a display (column 2, line 61 to column 3, line 8 and column 3, lines 12-16).

It would have been obvious to one having ordinary skill in the art to modify the invention of Catalyst, Goutzoulis, and Krause to specifically indicate that the low speed tester is further configured to make a decision for a pass/fail condition of said device based on said response and generate a pass/fail signal indicating said decision, as taught by Mongan, because the combination of Catalyst, Goutzoulis, and Krause does generate errors signals based on a test being performed and Mongan suggests that the combination would have maximized the testing efficiency by minimizing the amount of time required of the operator to confirm failures as well as produce more detailed information to the user about the error messages (column 2, line 61 to column 3, line 16) thereby increasing operators knowledge of the test result.

6. Claims 22 and 24, as may best be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Catalyst in view of Goutzoulis et al. and Krause et al. and further in view of U.S. Patent No. 5,583,874 to Smith et al.

As noted above, Catalyst in combination with Goutzoulis and Krause teaches many of the features of the claimed invention and while the invention of Catalyst, Goutzoulis, and Krause does teach determining whether or not there is a successful reception of a test packet within a predetermined time and generating a first done signal based on a determination of no successful reception of said test packet within a predetermined time, the combination does not specify that said device is configured to assert a second done signal through a discrete output in response successfully receiving said test vector from said host emulator.

Smith teaches a 10Base-T portable link tester including a test device that asserts a done signal through a discrete output to light an LED in response to successfully receiving a test vector from a PC host (column 2, lines 9-25, column 4, lines 46-52 and column 5, lines 40-64).

It would have been obvious to one having ordinary skill in the art to modify the invention of Catalyst, Goutzoulis, and Krause to include specifying that said device is configured to assert a second done signal through a discrete output in response successfully receiving said test vector from said host emulator, as taught by Smith, because, as suggested by Smith, the combination would have provided a clear, simplified method for indicating to a user that test data is being obtained by the device (column 1, lines 47-49 and column 2, lines 9-11), thereby improving analysis by allowing the user to instantly diagnose a condition of a connection between the device and other components.

Response to Arguments

7. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. The following arguments, however, are noted by the Examiner.

Applicant "traverses the assertion on page 4 of the Office Action that a parallel port cannot transmit data at a speed fast enough to perform the low and full-speed testing of a USB" because "the 'LPT Port Setting' section on page 10 of the Catalyst User's Manual indicates that the parallel port between a host computer (asserted similar to the claimed low speed tester) and an SBAE-10 (asserted similar to the claimed host emulator) can be set as ECP or EPP. The 'USB Info: Frequently Asked Questions' reference states that ECP/EPP parallel ports can transfer data at 3MBYTES/s while an Original USB operates at 1.5 MBYTES/s. There is no certainty that a parallel port cannot transmit data a speed fast enough to perform the low and full-speed testing since a parallel port may transfer data twice as fast as a full-speed USB. Therefore, the Office Action fails to establish a *prima facie* obviousness for lack of evidence that the references teach or suggest every claim limitation."

The Examiner asserts that page 10 of Catalyst User's Manual specifically states that "If your system supports Bi-directional mode you must have choices for at least one of the following: Bi-directional, ECP or EPP, preferably Bi-directional first then ECP and last EPP. . . If your system does

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not support a Bi-directional mode of operation or if you would like to keep the system port for a printer than you may use the Bi-directional parallel card provided with your analyzer.”

Therefore, Catalyst explicitly states that the system can, and preferably does, operate with a standard bi-directional parallel port rather than the ECP or EPP modes. Catalyst also indicates that the host emulator performs low and full-speed testing of the device under test over a USB connection (Catalyst, User’s Manual, page 6).

Turning to the “USB Info: Frequently Asked Questions”, it is stated that full-speed testing requires a speed of 12Mb/s and the Original USB has a speed of 12Mbits/s. “USB Info: Frequently Asked Questions” also indicates that the standard parallel port, which is the preferred communication mode of Catalyst, operates at a maximum speed of 115kBYTES/s and therefore cannot operate at a speed suitable for the full-speed testing. Therefore, the Examiner maintains the inherency that while Catalyst does not explicitly state that the emulator transmits test data at a second speed faster than the first speed received from the low-speed tester, due to the well-known maximum data transfer rates of parallel ports, USB ports and the requirements of low and full-speed testing, it is considered inherent that the speed of the test data transmitted by the host emulator to perform the low and full-speed testing must be faster than the test data sent from the low speed tester because a parallel port cannot transmit data at a speed fast enough to perform the low and full-speed testing.

Applicant also argues that “the Office Action fails to provide clear and particular evidence of motivation to combine Catalyst with Goutzoulis. In particular, the Office Action states on page 5 that Goutzoulis teaches a test vector generator. However, claim 1 does not provide a test vector generator. No clear and particular motivation appears to exist to include a test vector generator where none is claimed. Therefore, *prima facie* obviousness has not been established for lack of motivation to combine Catalyst and Goutzoulis.”

The Examiner maintains that independent claim 1 does require a “low speed tester to receive a test vector at a first speed, (ii) a second interface configured to (a) transmit said test vector to a device at a second speed faster than said first speed and (b) receive a response from said device”. The invention of Catalyst discloses a low speed tester including a GUI that allows the user to perform testing through packet transmission at either low speed or full speed (User's Manual, page 23, Figure 19). The invention of Catalyst therefore teaches transmitting test packets at first and second speeds, but does not include a corresponding means for adjusting the speed of the packets. The combination of Catalyst and Goutzoulis, as suggested by Goutzoulis, would have provided method for producing the high speed vectors required by Catalyst in a method that applies for very high speed devices, provides necessary tester interconnections, and allows precise

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control of required DUT input time delays (column 2, lines 25-30 and column 3, lines 8-13).

Applicant then argues that "Krause does not appear to cure the interface deficiency of Catalyst and Goutzoulis. In particular, the Office Action states on page 5 that Krause teaches splitting the parallel port of Catalyst into two separate interfaces. The Office Action asserts that motivation to make the change to Catalyst exists in Krause 'to use whichever type of device is most readily available.' However, Figure 1 on page 1 of the Catalyst User's Manual shows that a parallel bus is readily available. Therefore, using the Office Action's own motivation, one of ordinary skill in the art would appear to be motivated to keep the parallel bus of Catalyst as-is since the parallel port is 'readily available'. Furthermore, the fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness (MPEP 2143.01). The Office Action does not provide[d] any motivation to split the parallel port of Catalyst into two separate interfaces. Therefore, *prima facie* obviousness has not been established for lack of motivation to modify Catalyst and Goutzoulis with Krause."

The Examiner asserts that Krause suggests that separate interfaces are well-known equivalences to bi-directional interfaces (column 3, lines 13-15) and therefore one having ordinary skill in the art would recognize the motivation to use whichever type of device is most readily available. Therefore, while Catalyst does disclose a bi-directional parallel port, the

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combination would have provided implementation in systems where a bi-directional port is not readily available. The Examiner also asserts that further motivation has been provided. Specifically, "Further, the combination would have reduced a possibly of data collision between the low-speed tester and the host emulator both sending data to each other at the same time, by providing distinct interfaces for handling each type of data transmission. Further still, it would have been obvious to one having ordinary skill in the art at the time the invention was made to separate the single bi-directional interface into two separate interfaces since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179 and therefore, one having ordinary skill in the art would have been motivated to reduce the required complexity of the system by separating a bi-directional interface, that would have to be able to handle and route both data received from the low-speed tester as well as data from the emulator for transmission to the low-speed tester, into two separate distinct interfaces."

Applicant then argues that "the assertion on page 5 of the Office Action that 'the combination would have reduced a possibly [sic] of data collision between the low-speed tester and the host emulator both sending data to each other at the same time, by providing distinct interfaces for handling each type of data transmission' is not credited to any reference or knowledge generally available to one having ordinary skill in the art as required by MPEP

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2142. Therefore, the above alleged motivation is merely a conclusory statement.”

The Examiner asserts that MPEP 2143 indicates that the motivation does not need to come from a specific reference but that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Examiner asserts that the indication that the combination would have reduced a possibility of data collision between the low-speed tester and the host emulator both sending data to each other at the same time, by providing distinct interfaces for handling each type of data transmission, is within the knowledge generally available to one having ordinary skill in the art.

The Examiner similarly asserts that the indication that the combination would have reduced the required complexity of the system by separating a bi-directional interface, that would have to be able to handle and route both data received from the low-speed tester as well as data from the emulator for transmission to the low-speed tester, into two separate distinct interfaces, is within the knowledge generally available to one having ordinary skill in the art.

Applicant then argues that “each of Goutzoulis and Krause appear to be non-analogous art” because “[t]he applicant’s filed of endeavor is verifying operation of a USB device with a production test mode device . . . In contrast,

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neither Goutzoulis nor Krause appear to be within the field of verifying operation of a USB device. The particular problems with which the inventors are concerned include tester cost. . . . , full characterization , non peer-to-peer testing and initiating communications from a slave device In contrast, neither Goutzoulis nor Krause appear to be reasonably pertinent to any of the problems with which the inventors are concerned. Therefore, *prima facie* obviousness to combine the references has not been established as both Goutzoulis and Krause appear to be non-analogous art."

The Examiner asserts that the instant invention and Krause are both concerned with bi-directional communication during testing operations while the instant invention and Goutzoulis are both concerned with test vector communication to a testing device.

The Examiner also asserts that the instant invention, invention of Krause, and invention of Goutzoulis are all in the field of device testing.

Applicant also argues, with respect to claim 4, that the "Office Action asserts on page 3 that the host computer of Catalyst has 'a tester function to control the apparatus/host emulator to initiate test packets for a transmission/reception loop.' The Office Action appears to assert that the test packets of Catalyst are similar to the claimed test vectors."

The Examiner asserts that claim 4 specifically requires a "test vector generator configured to transfer said test vector to said low speed tester" and Catalyst does disclose a system wherein the speed of the device under test is

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automatically determined but is silent as how to perform this adjusted high-speed testing. The invention of Goutzoulis suggests that the combination of Catalyst and Goutzoulis would have provided method for producing the high speed vectors required by Catalyst in a method that applies for very high speed devices, provides necessary tester interconnections, and allows precise control of required DUT input time delays (column 2, lines 25-30 and column 3, lines 8-13).

Applicant then argues that "[c]laim 11 provides a device configured to initiate transmission of one or more test packets under control of a host emulator" and that "[c]laim 13 provides a low speed tester configured to (i) make a decision for a pass/fail condition of a device based on a response and (ii) generate a pass/fail signal indicating the decision". The Examiner asserts that these limitations are newly presented and a corresponding response has been applied in the body of the rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

"USB Info: Frequently Asked Questions" teaches the relative speeds between low testing, full testing, USB cables, and parallel ports.

U.S. Patent No. 4,890,102 to Oliver teaches a visual display for communication network monitoring and troubleshooting including means for

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asserting an output signal to an LED to indicate that data is being successfully received by a host device.

U.S. Patent No. 4,525,802 to Hackamack teaches a portable electronic testing apparatus including means for asserting a signal to light an LED.

U.S. Patent No. 6,320,866 to Wolf et al. teaches a network termination including a user terminal that interprets an error message to display that a failure has occurred.

U.S. Patent No. 6,704,888 to Caudrelier et al. teaches a process and tool for analyzing and locating hardware failures in a computer including an interface that interprets errors according to rules to indicate the result of the failures.

U.S. Patent No. 5,444,716 to Jarwala et al. teaches a boundary-scan-based system and method for test and diagnosis including means for passing errors to a machine that interprets the errors to yield test information.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH**


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shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (703)308-1309. The examiner can normally be reached on Monday through Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703)308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

jrw

February 6, 2005